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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/573,667

11/20/2006

Marion Bartsch

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EXAMINER

AUSTIN, AARON

ART UNIT

PAPER NUMBER

1784

MAIL DATE

DELIVERY MODE

07/12/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Advisory Action</b> <b>Before the Filing of an Appeal Brief</b>	<b>Application No.</b> 10/573,667	<b>Applicant(s)</b> BARTSCH ET AL.	
	<b>Examiner</b> AARON S. AUSTIN	<b>Art Unit</b> 1784	

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 30 June 2010 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.  
 b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

#### AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because  
 (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);  
 (b) ☐ They raise the issue of new matter (see NOTE below);  
 (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
 (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).  
 5. ☒ Applicant's reply has overcome the following rejection(s): See Continuation Sheet.  
 6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
 7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.  
 The status of the claim(s) is (or will be) as follows:  
 Claim(s) allowed: \_\_\_\_\_.  
 Claim(s) objected to: \_\_\_\_\_.  
 Claim(s) rejected: 1,2,5-12,14,17 and 18.  
 Claim(s) withdrawn from consideration: \_\_\_\_\_.

#### AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).  
 9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).  
 10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

#### REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.  
 12. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). \_\_\_\_\_  
 13. ☐ Other: \_\_\_\_\_.

/Aaron S Austin/  
 Primary Examiner, Art Unit 1784

Continuation of 5. Applicant's reply has overcome the following rejection(s): Rejection of claims 9-10 and 19 under 35 USC 112, second paragraph and the objections to the specification and to claims 1, 8, and 14.

Continuation of 11. does NOT place the application in condition for allowance because: Applicant's arguments filed with respect to the rejections over Qadri et al. (US 5,800,934) and Rigney et al. (US 6,455,167) as primary references have been fully considered but they are not persuasive.

Applicant primarily argues the coatings of the cited references are used in thermal barrier applications rather than to prevent rumpling/wrinkling and thus do not anticipate or make obvious the unexpected results obtained using the narrower thicknesses claimed.

In response, in addressing allegations of unexpected results the issue is whether the properties differ to such an extent that the difference is really unexpected. In re Merck & Co., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986), MPEP 716.02. In the present case, Applicant acknowledges "thick ceramic layers prevent thermally influenced wrinkling" but fails to provide 1) reasons as to why this phenomenon would not be experienced with thinner layers, 2) an identification of what thicknesses would not be expected to reduce wrinkling to some degree, 3) evidence supporting the argument that thinner layers provide substantially no heat-insulating effect and would therefore not be selected within the taught ranges of the prior art, or 4) evidence that reduction in rumpling is unexpected at the thicknesses claimed. The burden is on Applicant to establish "that the differences in results are in fact unexpected and unobvious and of both statistical and practical significance." Ex parte Gelles, 22 USPQ2d 1318, 1319 (Bd. Pat. App. & Inter. 1992); MPEP 716.02(b). The evidence pointed to in the present specification suggests thin coatings may be more desirable than thicker coatings for some applications but it does not appear to establish why one would find suppression of wrinkling at the claimed thicknesses to be unexpected. More particularly, the arguments fail to support the conjecture that reduction in wrinkling is unexpected at the claimed ranges. In fact, as any layer overlying another would be expected to reduce wrinkling to some extent due to downward pressure from the overlying layer impeding movement of the under layer, the physics of the interaction between the layers would suggest that some reduction in wrinkling is in fact expected rather than unexpected.

The arguments further repeat that the references lack any basis for a skilled artisan to apply coatings in a way that results in substantially no heat-insulating effect but prevents rumpling. In response, this argument is not entirely commensurate with the claims as they do not stipulate there is substantially no heat-insulating effect. While Applicant would appear to indicate in the arguments that the thickness ranges claimed are so thin that substantially no heat-insulating effect is experienced by the coating, this contradicts the teachings of the prior art wherein such thickness are used to provide some level of heat-insulation (see Qadri et al. for instance). Further, this argument does not take into account that the thickness chosen will depend on the other layers present. With additional thicker layers, the claimed layer need not be as thick as Applicant would suggest. In fact, the fact that thinner thicknesses are taught in the prior art would provide a skilled artisan basis for application of the coatings as claimed.

Applicant further argues Rigney et al. do not teach the claimed thickness of the outer ceramic coating and the addition of the teachings of Strangman and Ulion does not make the claimed thickness obvious. In particular, it is suggested that Strangman and Ulion vary the thickness in response to need for thermal resistance whereas the present claims are directed to a coating that provides substantially no heat-insulation. The argument states that if anything the optimization of the thickness of the coatings in view of Strangman and Ulion suggest greater thickness for providing increased thermal barrier protection and protection from spalling. In response, this argument ignores the portions of the ranges identified in the prior art which directly overlap the claimed ranges. Contrary to the argument presented, there is nothing in the references cited to suggest only the larger thicknesses over the disclosed ranges are desired. The ranges are disclosed for the suitability of any value within the ranges for use as a thermal barrier ceramic coating, including those values overlapping the claimed ranges. More particularly, in providing the ranges the references are suggesting it is known in the art to use both thicker and thinner coatings depending on the application. The suggestion that the references only provide for reason to use the upper ends of the ranges disclosed is not commensurate with the teachings of the prior art.

Further, the claimed ranges for thickness of the ceramic coating are entirely overlapped by the ranges for thickness taught by the references. Moreover, the reference to Qadri et al. has been added to show a much narrower range that still overlaps the claimed ranges in addition to examples wherein thicknesses at the lower end of the range are desirable. Clearly the ranges are taught by each of the references to provide workable values for thickness depending on the application rather than to suggest only the upper end of the ranges are desirable as Applicant suggests. Thus the suggested thicknesses for the thermal barrier ceramic coatings include the claimed values and as such the properties of the coatings at those thicknesses are expected to be as claimed as like materials are used in a like manner. Mere recognition of latent properties in the prior art does not render nonobvious an otherwise known invention. In re Wiseman, 596 F.2d 1019, 201 USPQ 658 (CCPA 1979); MPEP 2145(II). Contrary to Applicant's argument in response, there is a basis for this interpretation as like materials are expected to perform in a like manner. More particularly, as the references teach the same materials used in the same manner (note the overlapping thickness as set forth above and in the rejections), the layers produced in the prior art are expected to exhibit a reduction in rumpling/wrinkling as claimed.

Finally, Applicant argues it could not have been predicted by a person of ordinary skill in the art that the presently claimed thin layer could prevent wrinkling/rumpling. However, as noted above, as any layer overlying another would be expected to reduce wrinkling to some extent due to downward pressure from the overlying layer impeding movement of the under layer, the physics of the interaction between the layers would suggest that some reduction in wrinkling is in fact predictable. Further, as also noted above, the prior art establishes formation of ceramic thermal barrier topcoats with thicknesses in the ranges claimed is known in the art. While the references may not discuss wrinkling/rumpling suppression, the use of the same materials as claimed in the same manner as claimed is expected to produce a reduction in wrinkling/rumpling in the same manner taught by Applicant. There is nothing in the art or evidence submitted by Applicant to suggest the reduction in wrinkling/rumpling is not a latent property of the coatings disclosed by the prior art. For these reasons Applicant's arguments are unconvincing..